



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|------------------|-------------|----------------------|---------------------|------------------|
| 10/664,671 | 09/17/2003 | Hiromichi Inoue | JCLA12230 | 7305 |
| 7590 | | 07/06/2007 | EXAMINER | |
| J.C. Patents | | WU, SHEAN CHIU | | |
| Suite 250 | | | | |
| 4 Venture | | ART UNIT | | |
| Irvine, CA 92618 | | PAPER NUMBER | | |
| | | 1756 | | |
| | | MAIL DATE | | |
| | | DELIVERY MODE | | |
| | | 07/06/2007 | | |
| | | PAPER | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/664,671

Applicant(s)

INOUE ET AL.

Examiner

Shean C. Wu

Art Unit

1756

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 13-20 and 25 is/are rejected.
- 7) ☒ Claim(s) 9-12 and 21-24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 7 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The provisos in Claims 7 and 8 are not clearly defined because the semicolons “;” are used to separated the conditions. It is not clear that the provisos require simultaneously or separately.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-6, 13-20 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Rubens (US 3,285,997).

The reference discloses the preparation of rigid polymers of chlorostyrenes, which may be any one of the isometric monochloro- or dichlorostyrenes by admixing a minor proportion of a diacrylophenone (to make 1-20% of the mixture) and polymerizing usually in the presence 0.1-3% of organic peroxide. One of the preferred diacrylophenones is 4,4 –(p-phenylene) diacrylophenone (formula No. V with $n+m+q=2$,

Art Unit: 1756

Z^1 , Z^2 and Z^3 = a single bond, A^4 =1,4-phenylene, Z^4 =a single bond, R^2 , R^3 and R^5 =H and R^1 = HCH_2CH_2 - substituted by $HCH=CHCO$ -).

The reference anticipates the claimed compound (claims 1-6).

With respect to claim 25, the reference discloses the preparation of the diacrylophenones including 4,4 -(p-phenylene) diacrylophenone (see col. 2, line 49 to col. 3, line 32). The method of making formula III is described from col. 2, line 49 to col. 3, line 4, which involves the dehydrohalogenation. The aluminum chloride acts as a Lewis acid. The terphenyl is used instead of biphenyl to arrive the claimed method.

With respect to claims 13-20, the reference a mixture comprising a copolymerizable monomer of diacrylophenone is described on col. 4, lines 37-54 and the reference claims 13-19, which is incorporated with col. 7, line 57 of 4,4 -(p-phenylene) diacrylophenone to arrive at the claimed polymer.

Allowable Subject Matter

4. Claims 9-12 and 21-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

5. Applicant's argument, see Remarks, filed 4/17/07, with respect to the rejections of claims under JP '778 and CAPLUS '834 have been fully considered and are persuasive in light of the newly amended claim. Therefore, the rejections have been withdrawn. However, upon further

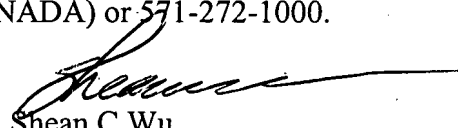
Art Unit: 1756

consideration, new grounds of rejection are made in sections 1 and 3 above. The indicated allowability of claims 13-25 are withdrawn in view of the newly discovered reference to Rubens (US '997, see section 3 above).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shean C. Wu whose telephone number is 571-272-1393. The examiner can normally be reached on 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Shean C Wu
Primary Examiner
Art Unit 1756

scw